What is claimed is:

1. A phase locked loop circuit, comprising:

a differential phase detector that receives an input signal and a feedback signal and produces a differential output signal;

an electronic selector circuit coupled to the differential output of the phase detector with an input that is responsive to a detected state of the input signal;

an operational amplifier based loop filter circuit, wherein the electronic selector circuit provides the differential output of the phase detector at a pair of inputs to the operational amplifier;

a voltage controlled oscillator coupled to an output of the operational amplifier and providing an output frequency for the phased locked loop circuit; and

wherein the electronic selector circuit is operable to control the input to the operational amplifier to hold the output frequency of the voltage controlled oscillator at a substantially constant frequency.

2. The circuit of claim 1, wherein the electronic selector circuit de-couples the pair of inputs from the differential output and holds the output frequency under an external command when the input signal to the phase detector is interrupted.

3. The circuit of claim 2, wherein the electronic selector circuit holds a current signal input to the operational amplifier when a reference signal to the phase detector is interrupted.

4. The circuit of claim 3, wherein the electronic selector circuit holds a current signal input to the operational amplifier by coupling the pair of inputs at the same potential.

5. The circuit of claim 4, wherein the electronic selector circuit includes a switch which couples the pair of inputs together when the reference signal to the phase detector is interrupted.

6. The circuit of claim 2, wherein the electronic selector circuit includes a logic-based selector circuit which holds the pair of inputs to an identical potential level when the input signal to the phase detector is interrupted.

7. The circuit of claim 2, wherein the electronic selector circuit re-couples the pair of inputs to the differential output of the phase detector when the input signal is restored.

8. A phase locked loop circuit, comprising:

a differential phase detector that receives an input signal and a feedback signal and produces a differential output signal;

an electronic selector circuit coupled to the differential output of the phase detector with an input that is responsive to a detected state of the input signal;

an operational amplifier based loop filter circuit, wherein the electronic selector circuit provides the differential output of the phase detector at a pair of inputs to the operational amplifier;

a voltage controlled oscillator coupled to an output of the operational amplifier and providing an output frequency for the phased locked loop circuit; and

wherein the electronic selector circuit de-couples the pair of inputs from the differential output and holds the output frequency of the voltage controlled oscillator to a last received signal from the differential output when the input signal to the phase detector is interrupted.

9. The circuit of claim 8, wherein the electronic selector circuit includes a switch which couples the pair of inputs together to hold the last received signal as a current signal input to the operational amplifier when the input signal is interrupted.

10. The circuit of claim 8, wherein the electronic selector circuit includes a logic-based selector circuit which holds the pair of inputs to an identical potential level to

hold the last received signal from the differential output at the operational amplifier when the input signal to the phase detector is interrupted.

11. The circuit of claim 10, wherein the logic based selector circuit includes a pair of AND gates, each AND gate having an output coupled to one of the pair of inputs, wherein one input of each AND gate is coupled to the differential output, and wherein the other input of each AND gate is coupled to an external command signal source.

12. The circuit of claim 11, wherein the external command signal source provides a high potential to one input of each AND gate.

13. The circuit of claim 8, wherein the electronic selector circuit re-couples the pair of inputs to the differential output of the phase detector when the input signal to the phase detector is restored.

14. The circuit of claim 8, wherein the output frequency of the voltage controlled oscillator provides the feedback signal to the differential phase detector.

15. A communication system, comprising:

a number of traffic cards having inputs and outputs;

a switching device coupled to the number of traffic cards; and

a synchronization source coupled to the number of traffic cards, wherein the synchronization source is determined by a selector coupled to an external synchronization source and a controller, wherein the selector provides an input signal to a phased locked loop circuit, wherein the phase locked loop circuit is coupled to the controller, and wherein the phase locked loop circuit includes:

a differential phase detector that receives the input signal and a feedback signal and produces a differential output signal;

an electronic selector circuit coupled to a differential output of the phase detector with an input that is responsive to a detected state of the input signal;

an operational amplifier based loop filter circuit, wherein the electronic selector circuit provides the differential output of the phase detector at a pair of inputs to the operational amplifier;

a voltage controlled oscillator coupled to an output of the operational amplifier and providing an output frequency for the phased locked loop circuit; and

wherein the electronic selector circuit de-couples the pair of inputs from the differential output and holds the output frequency of the voltage controlled oscillator to a last received signal from the differential output when the input signal to the phase detector is interrupted.

16. The system of claim 15, wherein the electronic selector circuit includes a switch which couples the pair of input signals together to hold the last received signal as a current signal input to the operational amplifier under an instruction from the controller when the input signal is interrupted.

17. The system of claim 15, wherein the electronic selector circuit includes a logic-based selector circuit which holds the pair of inputs to an identical potential level, under an instruction from the controller, to hold the last received signal from the differential output at the operational amplifier when the input signal to the phase detector is interrupted.

18. The system of claim 17, wherein the logic based selector circuit includes a pair of AND gates, each AND gate having an output coupled to one of the pair of inputs, wherein one input of each AND gate is coupled to the differential output, and wherein the other input of each AND gate is coupled to an external command signal from the controller.

19. The system of claim 18, wherein the external command signal includes a high potential signal provided to one input of each AND gate.

20. The system of claim 15, wherein the electronic selector circuit re-couples the pair of inputs to the differential output of the phase detector when the input signal is restored.

21. The system of claim 15, wherein the output frequency of the voltage controlled oscillator provides the feedback signal for the differential phase detector.

22. The system of claim 15, wherein the output frequency of the voltage-controlled oscillator further serves as a system clock to a number of system modules connected to the communication system.

23. A method for preventing data errors in a communication system, comprising:

coupling input data to a phase locked loop circuit, wherein the phase locked loop includes:

a differential phase detector that receives an input signal and a feedback signal and produces a differential output signal;

an electronic selector circuit coupled to a differential output of the phase detector with an input that is responsive to a detected state of the input signal;

an operational amplifier based loop filter circuit, wherein the electronic selector circuit provides the differential output of the phase detector at a pair of inputs to the operational amplifier; and

a voltage controlled oscillator coupled to an output of the operational amplifier and providing an output frequency for the phased locked loop circuit;

using the electronic selector circuit is operable to control the input to the operational amplifier to hold the output frequency of the voltage controlled oscillator at a substantially constant frequency when the input signal to the phase detector is interrupted; and

using the electronic selector circuit to release control of the input to the operational amplifier to follow the differential output when the input signal to the phase detector is restored.

24. The method of claim 23, wherein using the electronic selector circuit to hold the output frequency of the voltage controlled oscillator at a substantially constant frequency includes using the electronic selector circuit to de-couple the pair of inputs from the differential output and hold the output frequency of the voltage controlled oscillator to a last received signal from the differential output when the input signal to the phase detector is interrupted.

25. The method of claim 24, wherein using the electronic selector circuit to de-couple the pair of inputs from the differential output includes using a switch to couple the pair of input signals together to hold the last received signal as a current signal input to the operational amplifier when the input signal is interrupted.

26. The method of claim 24, wherein using the electronic selector circuit to de-couple the pair of inputs from the differential output includes using a logic-based selector circuit to hold the pair of inputs to an identical potential level in order to hold the last received signal from the differential output at the operational amplifier when the input signal to the phase detector is interrupted.

27. The method of claim 26, wherein using a logic-based selector circuit to hold the pair of inputs to an identical potential level includes using a logic-based selector circuit having a pair of AND gates, coupling an output of each AND gate to one of the pair of inputs, coupling one input of each AND gate to the differential output, and coupling the other input of each AND gate to an external command signal source.

28. The method of claim 28, wherein using a logic-based selector having a pair of AND gates and coupling the other input of each AND gate to an external command signal source includes coupling the other input of each AND gate to a high potential.

29. The method of claim 23, wherein using the electronic selector circuit to release control of the input to the operational amplifier to follow the differential output includes

using the electronic selector circuit to re-couple the pair of inputs to the differential output of the phase detector when the input signal is restored.

30. The method of claim 23, wherein the method further includes using the output frequency of the voltage controlled oscillator for providing the feedback signal to the differential phase detector.

31. The method of claim 23, wherein the method further includes using the output frequency of the voltage controlled oscillator as an output frequency for a system clock coupled to a number of system modules connected to the communication system.